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Effect Active Packaging on Physicochemicals and Antioxidant Properties in Meat Patties

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ABSTRACT

Recent alternative of the use of renewable and natural resources as biopolymer in plastic helps to reduce waste disposal problems in the environment. Semi-refined carrageenan (SRC) are used as biopolymer in formulation of active film adding with glycerol (G) as plasticizer and incorporated with different concentrations of tocopherol (T) as antioxidant was developed, and the film antioxidant effect were studied using meat patties as food model. The antioxidant effects of SRC-G based film containing 0.1%, 0.2%, 0.3 and 0.4% (w/w) tocopherol are measured in meat patties using Thiobarbituric Acid Reactive Substance (TBARS), % metmyoglobin and pH for 12 days storages. Overall, film with high concentration tocopherol exhibited the lower lipid oxidation in meat patties analysed using TBARS ($p<0.05$). Brown colour development was measured using % metmyoglobin with the SRC+G+0.4T% showed less than 50% of metmyoglobin development. Meanwhile, pH showed similar trends with % metmyoglobin and TBARS value with the SRC+G+0.4T% film showed less changes in pH value ($p<0.05$). The present results indicates the active film SRC+G+T inhibit the oxidation of meat, thus being a promising way to extend the shelf life of fresh minced meat.

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